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trees produce branches enough. The wind, weight of snow or other forces frequently bring down the young branches. The trees mostly grow in moist soil, frequently near streams. These branches may take root in the soil where they drop, or be carried down stream by the current and lodge on the shore below. With this view, the brittleness is a very effectual means of multiplying and distributing the species. Analogous examples are not uncommon. The fleshy buds in the axil of the leaves of the tiger-lily separate spontaneously and produce independent plants where they fall in suitable places. *Sempervivum globiferum* produces some slender branches a foot or more in length, and these bear a couple of small thick leaves at the end, within which are rudiments of other leaves. These leafy tips spontaneously separate and produce new plants where they strike soil. If my memory is not at fault, the slender branch then dies, as is the case with the runner of a strawberry after it produces a new plant at the end. Doubtless many similar examples are familiar to most botanists and horticulturists.

Michigan Agricult. College, Lansing.

W. J. BEAL.

**Brittle Branches of Salices.**—In the June number of the BULLETIN Mr. Thomas Meehan has opened a subject of considerable interest. Several of the willows (especially old trees) beside *Salix sericea* have branches brittle at the base, or rather which semi-articulate above their true base. This I have noticed for years in *S. sericea* and in *S. Babylonica*, but supposed it was a case of true brittleness as set forth in our manuals.

E. C. HOWE.

**Dicentra Canadensis.**—Since I wrote the note on *Dicentra Cucullaria* for the April number of the BULLETIN, I have had occasion to examine the "tubers" (as they are called in our manuals) of *D. Canadensis*, and have found that they, too, are simply very much enlarged petiole-bases. There are also some very minute, abortive leaves formed at the base of the fully developed leaves, but they do not grow into small bulblets as in *D. Cucullaria*, and therefore this species has no bulb-like rootstock; but the large, round bulblets are scattered singly on the more or less elongated, thin, scaly rhizoma. On the top of each, the scar left when the upper portion of the leaf has withered away, is plainly visible.

Hoboken, May, 1882.

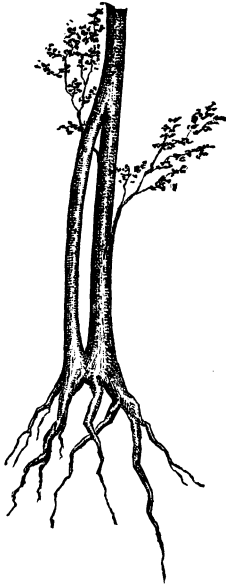
JOS. SCHRENK.

**Multiplication of Spadices in Arisaema.**—I have to report a monstrosity quite new in my experience. In my small garden, I have growing a number of wild plants, among them *Arisaema triphyllum* in quantity. The "pulpit" of one of these is occupied by two "preachers." To speak after the manner of botanists, there are within the spathe two spadices, confluent only in the lower flower-producing part. The flowers are all pistillate and apparently normal. Of the two "Jacks," one is taller than his clerical brother, while the lesser one is deformed, that is, somewhat flattened below and dilated above. He has a somewhat subdued look beside his more arrogant

brother. Dr. Masters mentions cases of double *spathes* in *Arum maculatum*, but I have seen no record of multiplication of the *spadices* in that or any related plant.

W. W. BAILEY.

**Adhesion between two Beeches.**—In the case represented in the annexed cut, reproduced from a drawing sent to the BULLETIN by Mr. Arthur Hollick, Nature appears to have executed a species of grafting, akin to that which, in the operations of gardening, is known as "inarching." The figure represents two small trees of *Fagus ferruginea*, Ait., the axes of which, through very close contact, at about five feet above the surface of the soil, have adhered at that point until a perfect union has taken place and the two individuals have become inseparably blended together there into one trunk. The fusion once effected, all traces of the union have become thoroughly effaced through subsequent annual growth. As will be observed, adhesion has also occurred at the bases of the trees.



Examples of this nature are perhaps not quite as frequent as the occasionally figured ones where two contiguous trees of the same species have become united through the cohesion of their branches, the axes preserving their individuality above such point of union.

Those who have taken the trip by stage-coach, from the steamboat landing at the foot of Lake George to Fort Ticonderoga, have perhaps had pointed out to them by the driver at a certain point on the route, an instance of a still more singular sort of adhesion, where two trees of *different* genera—an oak and an elm—are so closely and firmly adherent for about three feet above the ground-line as to form but a single trunk, which is apparently covered by a continuous bark.

The specimen here brought to the reader's attention by Mr. Hollick was detected by Mr. G. M. Wilber, near Pleasant Plains, Staten Island, on the occasion of a field meeting of the Torrey Club; and, after having been hewn down by the only implements available—pocket knives and a geological hammer—was transported with some difficulty to the museum of the Staten Island Natural History Society.

**Fern Notes.**—Permit me to add to Mr. Davenport's Fern Notes, page 71, May number of the BULLETIN, that *Botrychium nudicaule*, L. f., is quite common from Temecula Canon (north of San Diego) to All Saints' Bay in Lower California. I have gathered many specimens of it in various places. It grows on dry ground, usually wherever *Dodecatheon* or *Selaginella* does. The plant is very inconspicuous, and usually springs up and vanishes in less than six weeks.